Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in this application.

1. (currently amended) A detonation chamber adapted for use with a pulsed detonation engine, wherein said detonation chamber is constructed <u>predominately</u> from a material having low thermal stability.

2. (original) The detonation chamber of claim 1, wherein said material having low thermal stability is selected from the group consisting of plastic, composite material, light metal, and combinations thereof.

3. (original) The detonation chamber of claim 2, wherein said material having low thermal stability comprises plastic selected from the group consisting of Vespel, polytetrafluoroethylene, polyimide, and bismaleimide.

4. (original) The detonation chamber of claim 2, wherein said material having low thermal stability comprises composite materials selected from the group consisting of carbon-carbon composites and glass fiber-reinforced composites containing glass-ceramic matrices selected from the group consisting of litha-aluminum-silicate, silica, and $BaO\text{-}SiO_2\text{-}Al_2O_3\text{-}Si_3N_4$ with SiC.

5. (original) The detonation chamber of claim 2, wherein said material having low thermal stability comprises one or more light metals selected from the group consisting of aluminum and its alloys, magnesium and its alloys, and aluminum-titanium alloys.

6. (original) A nozzle adapted for attachment to a pulsed detonation engine, wherein said nozzle is constructed from a material having low thermal stability.

7. (original) The nozzle of claim 6, wherein said material having low thermal stability is selected from the group consisting of plastic, composite material, light metal, and combinations thereof.

8. (original) The nozzle of claim 7, wherein said material having low thermal stability comprises plastic selected from the group consisting of Vespel, polytetrafluoroethylene, polyimide, and bismaleimide.

9. (original) The nozzle of claim 7, wherein said material having low thermal stability comprises composite materials selected from the group consisting of carbon-carbon composites and glass fiber-reinforced composites containing glass-ceramic matrices selected from the group consisting of litha-aluminum-silicate, silica, and BaO-SiO_2-Al_2O_3-Si_3N_4 with SiC.

10. (original) The nozzle of claim 7, wherein said material having low thermal stability comprises one or more light metals selected from the group consisting of aluminum and its alloys, magnesium and its alloys, and aluminum-titanium alloys.

11. (currently amended) A pulsed detonation engine comprising a detonation chamber and a nozzle, wherein at least one of said detonation chamber and said nozzle is constructed <u>predominately</u> from a material having low thermal stability.

12. (original) The pulsed detonation engine of claim 11, wherein said material having low thermal stability is selected from the group consisting of plastic, composite material, light metal, and combinations thereof.

13. (original) The pulsed detonation engine of claim 11, wherein said material having low thermal stability comprises plastic selected from the group consisting of Vespel, polytetrafluoroethylene, polyimide, and bismaleimide.

14. (original) The pulsed detonation engine of claim 11, wherein said material having low thermal stability comprises composite materials selected from the group consisting of carbon-carbon composites and glass fiber-reinforced composites containing glass-ceramic matrices selected from the group consisting of litha-aluminum-silicate, silica, and $BaO\text{-}SiO_2\text{-}Al_2O_3\text{-}Si_3N_4$ with SiC.

15. (original) The pulsed detonation engine of claim 11, wherein said material having low thermal stability comprises one or more light metals selected from the group consisting of aluminum and its alloys, magnesium and its alloys, and aluminum-titanium alloys.

16. (currently amended) A thrust mechanism comprising at least two pulsed detonation engines and a control unit for alternatively actuating said at least two pulsed detonation engines, wherein each pulsed detonation engine is constructed predominately from a material having low thermal stability.

17. (currently amended) A method of generating thrust comprising actuating a first pulsed detonation engine for a first interval of operation, wherein said first pulsed detonation engine is constructed <u>predominately</u> from a first material having low thermal stability.

18. (original) The method of claim 17, wherein said first material having low thermal stability is selected from the group consisting of plastic, composite material, light metal, and combinations thereof.

19. (original) The method of claim 17, further comprising actuating a second pulsed detonation engine for a second interval of operation, wherein said second pulsed detonation engine is constructed from a second material having low thermal stability.

20. (original) The method of claim 19, wherein said second material having low thermal stability is selected from the group consisting of plastic, composite material, light metal, and combinations thereof.

21. (original) The method of claim 19, wherein said second interval of operation begins at about the end of said first interval of operation.

22. (original) The method of claim 19, wherein said second interval of operation substantially coincides with said first interval of operation.

23. (original) The method of claim 21, further comprising re-actuating said first pulsed detonation engine after the conclusion of said second interval of operation, optionally after cooling said first pulsed detonation engine.

24. (original) The method of claim 17, wherein said first pulsed detonation engine is a reaction control system (RCS) thruster for orbital control.